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中国东北为害樟子松的松梢螟新种和一新种团（鳞翅目：螟蛾科，斑螟亚科）

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近来我们整理松梢螟属（*Dioryctria* Zeller）的螟蛾标本。研究过程中发现采自黑龙江省瑷珲县的一种与本属已知种类皆不相同，应该是一个新种。这个新种不能纳入本属已知的各个种团（Mutuura & Munroe 1972, 1974)。从外形和外生殖器的形态构造比较，呈现出另一突出的类群。我们认为应该成立一个新种团。由于幼虫加害樟子松（又名蒙古赤松、海拉耳松）*Pinus sylvestris* L. var. *mongolica* Litvin. 取名樟子松梢斑螟 *Dioryctria mongolicella*（新种）。新种团取名樟子松种团 *mongolicella* group。新种的模式标本保存在北京中国科学院动物研究所。

樟子松梢螟种团 *mongolicella* group

前翅缺少竖立的鳞片。下颚须鳞片状。雄蛾触角干基部鳞簇有浅凹陷。末端有一枚黑鳞。雄性外生殖器抱器瓣窄长，末端收缩圆形无尖齿。抱器背硬骨质化末端伸出钝圆骨片。抱器瓣腹面基部伸出二杈形齿，它的前方又有硬骨质化末端如衣领状的粗端齿。抱器腹狭窄。雌性外生殖器囊导管短小。幼虫为害樟子松。以樟子松梢斑螟 *Dioryctria mongolicella*（新种）为代表。

樟子松梢斑螟 *Dioryctria mongolicella* 新种（图 1♂♀，2，3）

翅展 24 毫米。头部黑褐色。口喙发达。触角灰褐色细长纤毛状，基部鳞片稍深黑。雄蛾触角干柄节鳞簇有浅凹陷，末端灰黑色有一枚黑鳞。有单眼。有毛隆。下唇须向上弯曲、第三节细尖超越头顶，鳞片黑灰交错。下颚须灰褐色。胸部深黑褐色，领片和翅基片皆褐黑色。腹部褐黑色。前翅光滑，背面无竖鳞，底色深黑。基域和亚基域浅黄褐色。亚基线灰色鲜明。前中线灰白色，朝向基域伸出两个尖突。中域在中室内布满黑鳞，中间夹杂着少数分散的块状灰白色鳞。中室端脉斑白色细小鲜明。后中线灰白色清晰鲜明，中部朝向翅端线伸出三角形尖突。端线灰白色宽阔并混杂黑色鳞片。缘毛灰色。后翅暗褐色，沿外缘略黑，翅面有少数黑鳞。缘毛灰色。

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新种标本系黑龙江省嫩江地区林业科学研究所钱范俊同志采到寄赠要求鉴定的；并函告有关为害情况与生活习性，在此深表感谢。

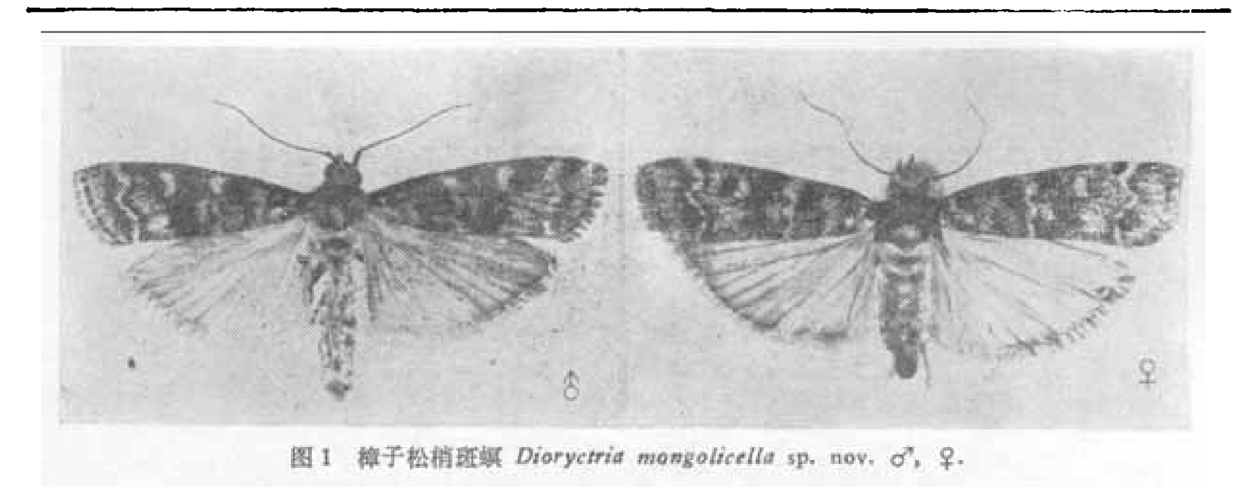


图 1 樟子松梢斑螟 *Dioryctria mongolicella* sp. nov. ♂, ♀.

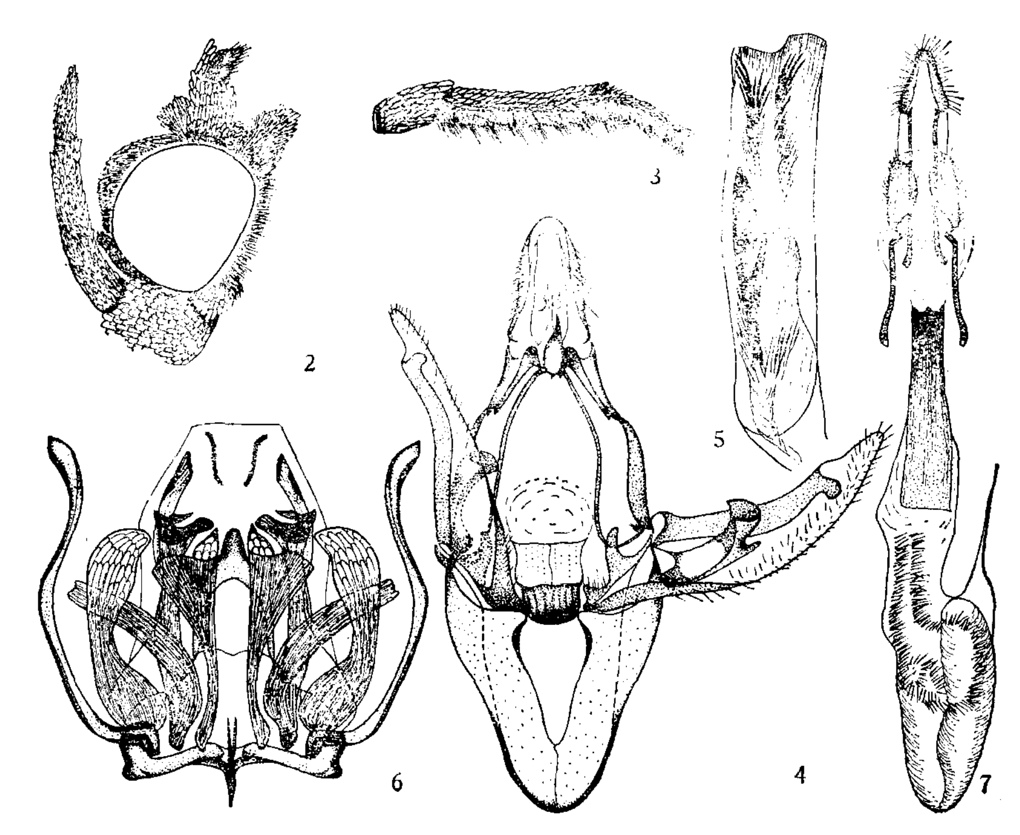


图 2 头部侧面观	图 3 触角基部
图 4 雄性外生殖器	图 5 阳茎
图 6 味刷	图 7 雌性外生殖器

雄性外生殖器(图 4, 5) 爪形突狭长，两侧略窄，顶端钝圆，基部稍宽，背面密披细毛。颚形突细小,两侧狭窄，顶端伸出尖突。背兜宽阔。基腹弧基部扩展，末端收缩。抱器瓣窄长,顶端渐细收缩呈圆形，无尖齿。抱器背硬骨质化，伸长为抱器瓣长度的五分之四,末端锚爪状。抱器瓣腹面窄狭，基部伸出杈形齿，它的前方另有柄状末端开展如尖衣领的粗端齿。抱器腹狭窄,末端削尖。阳茎粗壮、长度约等于宽度的六倍。阳茎基部有两枚粗大的基角状器。阳茎端部有多枚短刺状的端角状器。味刷形状如(图 6) 所示。

雌性外生殖器(图 7) 臀瓣椭圆形,囊导管硬骨质化,长度比例为 6∶1。交配囊窄长,内有两行排列如针状的细刺。附囊发达,内有一排由细刺组成的角状器。

幼虫为害　樟子松 (*Pinus sylvestris* L. var. *mongolica* Litvin.)

正模♂。黑龙江省瑷珲县卡伦山。1978.7.30.钱范俊采。配模♀。地点、日期及采集者同上。外生殖器编号 Ph.237。副模 1♂地点、日期及采集者同上，外生殖器编号 Ph.100.2♀♀地点、日期及采集者同上。

注释　本新种斑纹色泽黑色并有闪光，界限分明。外生殖器构造特殊，抱器背骨化部分末端锚爪状。抱器瓣腹面基部伸出杈状齿和柄状末端开展如衣领状的粗齿。与本属所有已知各种皆不相同。

为害征状和生活习性　黑龙江省嫩江地区林业科学研究所钱范俊同志函告：1978—1980 年在黑龙江省调查，本种在大兴安岭地区和黑河地区樟子松林内发生。虫害株率在呼玛县金山林场为 11.8%，瑷珲县卡伦山林场为 12.1%，嫩江县高峰林场为 22%。幼虫为害樟子松树干和侧枝的韧皮部。侵入树干以后即围绕蛀食，受害部位向外溢出大量树脂，凝结成团块状起初呈白色随后转黄白色，其间并混杂着排出的棕褐色粪粒，溢出后在树干表面呈现粗糙不平的团块，粗枝和侧枝受害后排出的粪粒与树脂混成小团。树枝受害极易从被害蛀食部位受到风折、雪压或采种时折断。树枝被害部位以上的枝干极易干枯死亡，从而树顶枯竭枝干弯曲。

被害树木多半是 9—70 年生的幼林或壮林。3 年生以下的樟子松幼树极少受害。百年以上的大树上也见到受害情况。阳坡生长的樟子松要比阴坡生长的受害严重。林缘周围生长的要比林内受害严重。樟子松表皮出现的伤口给樟子松梢斑螟的为害提供有利条件。其中樟子松瘤锈病和疱锈病侵害所造成的伤口，整枝时的机械损伤，自然产生的树皮开裂以及啄木鸟啄食后所残留的树皮啄伤都有助于樟子松梢斑螟幼虫的侵害。

生活史　一年发生一代，以幼虫越冬。越冬幼虫于 4 月下旬开始活动。7 月上旬至中旬为害，老熟以后在凝结的松脂团内或者韧皮部的虫蛀隧道中吐丝结成灰白色茧，包围幼虫然后在茧内化蛹。蛹期历经 10—15 天，在野外 7 月中旬仍能找到。成虫羽化期为 7 月中旬到下旬。7 月中旬有当年新孵化的幼虫从樟子松枝干的伤口向内钻入韧皮部蛀食，并导致从树干树枝伤口往外滴出白色松脂，逐渐凝聚成块。幼虫于 9 月下旬开始在被害枝干蛀道越冬，直到翌年春季 4 月再活动。

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DESCRIPTION OF A NEW SPECIES OF *DIORYCTRIA* ZELLER ON *PINUS SYLVESTRIS* VAR. *MONGOLICA* FROM NORTH-EAST CHINA, WITH ESTABLISHMENT OF A NEW SPECIES GROUP

(LEPIDOPTERA: PYRALIDAE, PHYCITINAE)

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Recent studies of chinese pyralid pine moths of the genus *Dioryctria* Zeller on *Pinus sylvestris* var. *mongolica* from North-East China revealed a phloem damaging species which is very distinctive in structural appearance and cannot be placed in any known species groups of Mutuura and Munroe (1972, 1974). We are in the opinion to describe it as a new species and establish another species group.

Mongolicella group

Forewing without erected raised scales. Maxillary palpus squamous. Base of male antenna with minute depression, ending with one black scaling. Male genitalia with valva narrowed, ending in round tip without tooth. Dorsal part of valva sclerotized with fluke-like ending. Ventral part of valva with sclerotized bifurcate tooth, anterior of which with another sclerotized collar-shaped elevation. Female genitalia with ductus bursa narrowed. Larvae on *Pinus sylvestris mongolica.* From North-East China.

Dioryctria mongolicella sp. nov.

Wing expanse 24—27 mm. Head cinereus. Tongue well developed. Antenna pale fuscous with darker black scales at base. Antennal shaft in male grey fuscous with a black tip, light scale-tuft in sinus with third joint sharply pointed over the vertex with black scales. Maxillary palpus grey-fuscous in squamous form. Thorax dark fuscous black. Patagium and tegula fuscous-black. Abdomen fuscous-black.

Forewing above without raised scales ridge, ground color dark black. Basal and subbasal areas protuding inwards. Median area suffused with black scales in the cell with griseous white scales scattered throughout. Discocellular spot in white color, very minute and distinct, with a triangular angle extruding from middle toward the terminal line. Terminal line grecious white mixed with black scales. Fringe fuscous. Coremate as shown in figure 6.

Male genitalia (figs. 4, 5). Uncus long and rather narrow on each side, rounded at tip, basal slightly expanded, dorsal scattered with minute pristles which are shorter on tip and much longer on each side. Gnathos narrow, with produced sharp pointing. Tegumen broad. Vinculum expanded at base, narrowed distally. Valva narrowly elongated with tip rounded without tooth-like projection Costa highly sclerotized extending about 4/5 length of the valva, ending in fluke-shaped. Ventral part of valva with a bifurcated teeth, beyond which extruding with collar-shaped sclerotized plate. Sacculus very thin, ending gradually. Aedeagus stout, about six times as long as wide.

With two large basal cornuti. Distal area with many spine-like short distal cornuti.

Female genitalia (fig. 7). Anal lobe oval-shaped. Ductus bursa oblong and highly sclerotized about six times as long as wide. Bursa copulatrix narrow. Cornutus with two rows of minute spines. Lateral lobe well developed.

Holotype male. Ai-hui county. Heilungkiang province of North-East China. F.T. Qian. Allotype female. Locality and date same as holotype. Genitalia no. Ph. 237. Paratype 1 male. Locality and date same as holotype. Genitalia no. Ph. 100. 2 females. Locality and date same as holotype.

Remarks. This new species is bred from *Pinus sylvestris mongolica*. It is very distinct from structures of genitalia with no resemblance to any known species and cannot be placed in any known species-groups. Report from Mr. Qian Fan-tsun during 1978—1980 saying larvae of this new species were bred on phloem of *Pinus sylvestris* var. *mongolica* destroying tree trunks and twigs with flow of pine resins mixed with frasses from wounds. Trees of 9—70 years and up to 100 years old had often been attacked. Cankers made by rust galls, mechanical injuries, natural breakage as well as holes caused by woodpeckers made easy for the larvae to enter through. It is univoltine. Larvae overwinter under barks in tunnels and begin to damage under barks in late April then become severe in early to mid July. Oval pupal chambers are made with silk among resinous blocks or in tree tunnels. Pupation takes place in about 10—15 days. Adults appear in the field from mid to late July. Newly hatched larvae enter through wounds into trees trunks and shoots then live internally, resulting flow of oleoresin from wounds.